



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,247	11/26/2003	Yong Jae Lee	K-0572	6121
34610	7590	11/02/2006		
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			EXAMINER HECKERT, JASON MARK	
			ART UNIT	PAPER NUMBER

1746

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,247

Applicant(s)

LEE, YONG JAE

Examiner

Jason Heckert

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 22 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 22 recites the limitation "dishwasher" in line 87. There is insufficient antecedent basis for this limitation in the claim. It is assumed that "water softener" was the intended object of the claim. Please apply the appropriate correction.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 12-22 rejected under 35 U.S.C. 102(b) as being anticipated by Rak. Rak discloses a water softener that has at least one container 26a for holding an ion-exchange resin, one tank 10 for holding salt and saltwater, a float 48, and a liquid sensing apparatus (col. 4 line 35-36) that determines if the saltwater concentration is sufficient. The liquid sensing apparatus detects the brine concentration by determining if the float has risen to a certain height (col. 3 lines 18-32). The float 48 is mounted on

Art Unit: 1746

shaft 52 to guide the movement of the float. Rak discloses that the preferable means for detection of the location of the float is a magnet mounted axially within the float and a magnetic proximity reed switch or a Hall effect switch within the shaft on which the float is mounted. Depending on the embodiment, the switches are attached to the control apparatus 20 by wires (56, 82a, 82b). These wires are capable of transmitting a current.

6. The sensor detects whether the liquid level is sufficient, and thereby the concentration of the brine, based on the distance between the detector and the float. If the liquid level is not high enough, and therefore the concentration is not sufficient, an indication, in the form of an alarm, is given (col. 3 line 61-62). This satisfies the limitation of an information device. Furthermore, this indication is based on a determination of whether the quantities of solid salt and water are sufficient to indicate that an adequate salt supply is present (col. 3 line 68-69), which meets the limitation of informing on the basis of a salt shortage.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kendt in view of Rak. Kendt discloses a dishwasher comprising a housing 11, a tub 12,

Art Unit: 1746

a spray arm 24, and a water softener 30. The water softener utilizes ion exchange resins, however it does not include a float and sensor for sensing the concentration of salt water. Rak discloses a water softener with such features. This water softener has at least one container 26a for holding an ion-exchange resin, one tank 10 for holding salt and saltwater, a float 48, and a liquid sensing apparatus (col. 4 line 35-36) that determines if the saltwater concentration is sufficient. The liquid sensing apparatus detects the brine concentration by determining if the float has risen to a certain height (col. 3 lines 18-32). The float 48 is mounted on shaft 52 to guide the movement of the float. Rak discloses that the preferable means for detection of the location of the float is a magnet mounted axially within the float and a magnetic proximity reed switch or a Hall effect switch within the shaft on which the float is mounted. Depending on the embodiment, the switches are attached to the control apparatus 20 by wires (56, 82a, 82b). These wires are capable of transmitting a current.

9. The sensor detects whether the liquid level is sufficient, and thereby the concentration of the brine, based on the distance between the detector and the float. If the liquid level is not high enough, and therefore the concentration is not sufficient, an indication, in the form of an alarm, is given (col. 3 line 61-62). This satisfies the limitation of an information device. Furthermore, this indication is based on a determination of whether the quantities of solid salt and water are sufficient to indicate that an adequate salt supply is present (col. 3 line 68-69), which meets the limitation of informing on the basis of a salt shortage. As stated previously, Kendt discloses a water softener in a dishwasher, but does not disclose many features of the softener. It would

Art Unit: 1746

have been obvious at the time of the invention, to modify the dishwasher disclosed by Kendt, to include any water softener that was conventionally used, such as that taught by Rak with a float type salt sensor, in order to detect and alarm the user of insufficient brine concentrations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Heckert whose telephone number is (571) 272-2702. The examiner can normally be reached on Mon. to Friday, 8:00 - 5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/721,247
Art Unit: 1746

Page 6

JMH



MICHAEL BARR
SUPERVISORY PATENT EXAMINER